

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference P85221PC00ECR	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/GB2004/003049	International filing date (day/month/year) 14.07.2004	Priority date (day/month/year) 22.07.2003	
International Patent Classification (IPC) or national classification and IPC G06T15/70, G06F3/033, G06F9/44			
Applicant KELSEUS LIMITED			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☒ sent to the applicant and to the International Bureau a total of 4 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 15.02.2005	Date of completion of this report 02.11.2005
Name and mailing address of the international preliminary examining authority:  European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Authorized Officer Kirsten, K Telephone No. +49 30 25901-424



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/003049

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-28 as originally filed

Claims, Numbers

1-21 filed with telefax on 14.10.2005

Drawings, Sheets

1/5-5/5 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/003049

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-21
	No: Claims	
Inventive step (IS)	Yes: Claims	1-21
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-21
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/GB2004/003049

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following document:
D1: US-B1-6 476 830 (MORNINGSTAR CHRIS ET AL) 5 November 2002 (2002-11-05)
2. Document D1, which is considered to represent the most relevant state of the art, discloses: a virtual world in which avatars can attach and detach props, and where different events trigger animations of props or avatars. The subject-matter of claim 1,18,20,21 differs from this in that the avatar is being operable to query the prop for the information defining the animation that the avatar is to perform when the avatar interacts with the prop.
The subject-matter of claim 1,18,20,21 is therefore new (Article 33(2) PCT).
3. The problem to be solved by the present invention may be regarded as providing an effective way of handling the information relating to animations when building a virtual world.
The solution to this problem proposed in the dependent claims of the present application is considered as involving an inventive step (Article 33(3) PCT) since the combination of the features of dependent claims is neither known from, nor rendered obvious by, the available prior art.
4. Since claims 2-17,19 are dependent on claim 1,18,20 or 21 they also meet the requirements of the PCT with respect to novelty and inventive step.

CLAIMS

1. Apparatus for controlling an interactive virtual environment, the apparatus comprising means for defining a
5 virtual environment populated by objects, the objects comprising avatars and props, wherein objects within the virtual environment may be dynamically attached to and detached from other objects, characterised in that one or
10 more of the props has associated with it information defining one or more animations which may be performed by an avatar when said avatar interacts with the prop, the avatar being operable to query the prop for the information defining the animation that the avatar is to perform when
15 the avatar interacts with the prop, and wherein when the prop is dynamically attached to another object, the information defining the animation(s) to be performed by one or more of the avatars during an interaction with the prop, remains associated with the prop.

20 2. Apparatus according to claim 1 wherein, when an object is attached to another object, it inherits the movement of the object to which it is attached.

25 3. Apparatus according to claim 1 or 2 further comprising means for storing an animation sequence for subsequent replay or editing.

30 4. Apparatus according to claim 1 or 2, being an apparatus for playing a computer game.

5. Apparatus according to claim 3, further comprising:
means for allowing a user to control the virtual environment to create an animation sequence.

6. Apparatus according to any preceding claim, wherein the animation or animations are defined as part of a state machine which is associated with the prop.

5 7. Apparatus according to claim 6 wherein the state machine comprises a state transition which defines an initial state, a final state, and at least one of a prop animation which takes the prop from the initial state to the final state, and an avatar animation which takes the
10 avatar from the initial state to the final state, and optionally back to the initial state.

8. Apparatus according to claim 7 wherein a precondition is associated with one of the states.
15

9. Apparatus according to any of claims 6 to 8 wherein the state machine has an idle state.

10. Apparatus according to claims 3, or any of claims 6
20 to 9 when appended to claim 3, wherein an animation sequence is stored as a script comprising a list of commands.

11. Apparatus according to claim 10 wherein the
25 commands are the same commands as may be entered by a user in order to control the virtual environment.

12. Apparatus according to claim 10 or 11 wherein a script contains an instruction which is to be passed to an
30 object in the virtual environment.

13. Apparatus according to claim 12 wherein the instruction is only passed to the object once an animation which precedes it in the script has been played out.
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14. Apparatus according to any of the preceding claims, wherein an avatar comprises at least a file defining its appearance, and an animation defining its movements.

5 15. Apparatus according to any of the preceding claims, wherein a plurality of avatars share a common animation.

16. Apparatus according to claim 15 wherein the common animation is retargeted to fit the size of the avatar in
10 question.

17. Apparatus according to any of the preceding claims, wherein a prop includes a file which specifies a way in which the prop may contain other props.

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18. A method of controlling an interactive virtual environment, the method comprising defining a virtual environment populated by objects, the objects comprising avatars and props, wherein:

20 objects within the virtual environment may be dynamically attached to and detached from other objects, characterised one or more of the props has associated with it information defining one or more animations which may be performed by an avatar when said avatar interacts with the
25 prop, the avatar being operable to query the prop for the information defining the animation that the avatar is to perform when the avatar interacts with the prop, and wherein when the prop is dynamically attached to another object, the information defining the animation(s) to be
30 performed by one or more of the avatars during an interaction with the prop, remains associated with the prop.

19. A method of controlling an interactive virtual
35 environment according to claim 18, the method comprising the further steps of:

allowing a user to control the virtual environment to create an animation sequence; and

storing an animation sequence for subsequent replay or editing.

5

20. A computer program which, when run on a computer, causes the computer to carry out the method of any of claim 18 to 19, or to become the apparatus according to any of claims 1 to 17.

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21. A computer readable storage medium having stored thereon a computer program which, when run on a computer, causes the computer to carry out the method of any of claim 18 or 19, or to become the apparatus according to any of

15 claims 1 to 17.

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